



Distizym[®] AG

Glucoamylase for the saccharification of starch in distilling mashes from farinaceous raw materials

Product Description

Distizym[®] AG is a special enzyme which is applied in alcohol production for saccharification of mashes containing liquefied starch. The enzyme is produced from a specially selected strain of *Aspergillus niger*. The main activity of the enzyme is based on a glucoamylase (exo-1,4- α -D-glucohydrolase: EC.3.2.1.3.).

Distizym[®] AG is tested by specialized laboratories for purity and quality.

Aim of Treatment

Extensive saccharification of liquefied starch to fermentable D-glucose units.

Product and Effect

Distizym[®] AG progressively hydrolyses 1,4- α -D-glycosidic bonds of starch, dextrans and oligosaccharides starting from the non-reducing chain end. In this process D-glucose units are split off. The enzyme also cleaves the 1,6- α -glycosidic bonds of amylopectin, yet with reduced conversion rate.

Dosage

The following standard dosage is recommended, independently of the raw material applied:

500 mL Distizym[®] AG/tonne starch.

Since the saccharification activity of Distizym[®] AG is further active during fermentation, the dosage also depends on the duration of fermentation. The dosage mentioned above corresponds to the required dosage for a three-day-fermentation under standard conditions.

Application

Prior to addition to the mash Distizym[®] AG is diluted with cold water in the ratio of 1:1 and added during the cooling phase subsequent to starch liquefaction. Due to the extremely good temperature tolerance of Distizym[®] AG the enzyme can be added as soon as the temperature is below 70 °C (the optimum is at 65 °C). Before addition the pH-value is adjusted with semi-concentrated acid (phosphoric or sulphuric acid etc., in accordance with the respective laws and regulations) to a pH-value of 4.0-5.0 (optimum at pH 3.8-4.2). It is not necessary to stabilize the enzyme by adding calcium.

Storage

Optimum storage conditions at 0-10 °C. Higher storage temperatures result in a shorter shelf life. Temperatures above 25 °C are to be avoided. Reseal opened packagings tightly and use up as soon as possible.

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Our technical product leaflets and the treatment recommendations they contain, are based on our current knowledge and experience and we make all reasonable efforts to ensure the accuracy of the information it provides. But since pre-treatment is mostly unknown to us and moreover imponderabilities with regard to the natural products to treat have to be taken into consideration, the advice given provides general information and serves for your consultation. Without a separate, written statement from our side on a defined matter or problem, the information provided should not be relied upon as legal advice or regarded as a substitute for legal advice and is without liability. The information provided is in accordance with the law in force of the Federal Republic of Germany and the EU. In addition, our general terms of business apply.

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General Characteristics

Enzyme characteristics: the activity range of Distizym® AG is between pH 2.5 and pH 6.5, the optimum is at pH 3.8-4.2. The temperature range of the enzyme is between 25 °C and 80 °C, the temperature optimum is at 65 °C.

The diagrammes 1 and 2 show the influence of temperature and pH-value on the enzyme activity of Distizym® AG.

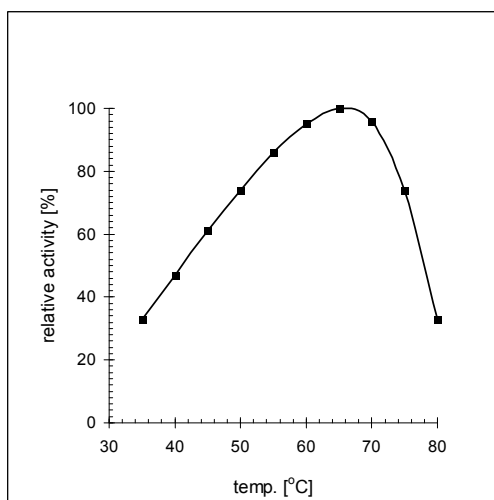


Fig 1: Influence of temperature on activity
(30 % maltodextrin DE18, pH 4.0).

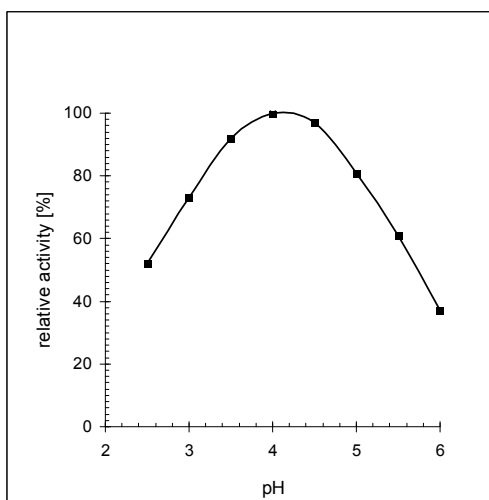


Fig 2: Influence of pH-value on activity
(30 % maltodextrin DE18, 60 °C).